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February 11, 2005

RZ1.R02803.01-ID-047

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway – 22nd Floor
New York, NY 10007

Reference: EPA Contract No. 68-W-02-038; EPA Work Assignment No. R02803; Atlantic Fleet Weapons Training Facility Corrective Action Support; Technical Review of the Draft Time Critical Removal Action/Interim Measures Work Plan, Surface Munitions of Explosives Concern at Munitions Response Area-Live Impact Area, Munitions Response Sites 1 through 4, 6, 16, 17, and 30, Former Vieques Naval Training Range (VNTR), Vieques Island, Puerto Rico, dated January 2005; Task 2

Dear Mr. Gordon:

Enclosed please find TechLaw's review of the Draft Time Critical Removal Action/Interim Measures Work Plan, Surface Munitions of Explosives Concern at Munitions Response Area-Live Impact Area, Munitions Response Sites 1 through 4, 6, 16, 17, and 30, Former VNTR, dated January 2005.

The work plan presents the process for conducting a surface removal of Munitions and Explosives of Concern (MEC) from several sites that have been deemed hazardous due to surface contamination with MEC and frequent trespassing events. This removal will include items which are partially subsurface but have a portion of the item exposed at the surface of the soil. The process presented is sufficient for the conduct of the surface removal, if the requested revisions are implemented.

There are a number of sections of the plan and related documents which have not been included or are not finalized at this time. The absence of these documents is not serious, but they should be provided to the EPA for review when available. The attached comments request that this be done.

We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued

support. Please contact me at (843) 200-3973, or the TechLaw WAM, Erica Downs, at (617) 720-0320, ext. 133, if you have any questions.

Sincerely,

Carole E. N. Harris
Regional Manager

cc: B. Lopez, EPA Region 2
P. Brown-Derocher/Central Files
E. Downs

TECHNICAL REVIEW OF THE
DRAFT TIME CRITICAL REMOVAL ACTION/INTERIM MEASURES
WORK PLAN
SURFACE MUNITIONS OF EXPLOSIVES CONCERN
AT MUNITIONS RESPONSE AREA-LIVE IMPACT AREA,
MUNITIONS RESPONSE SITES 1 THROUGH 4, 6, 16, 17, AND 30
FORMER VIEQUES NAVAL TRAINING RANGE (VNTR)
VIEQUES ISLAND, PUERTO RICO
DATED JANUARY 2005

GENERAL COMMENTS

1. The December 18, 2003, memorandum from the Principal Assistant Under Secretary of Defense (Installations and Environment), Subject: Definitions Related to Munitions Response, provides a revised listing of definitions to be used by Department of Defense organizations in both internal and external discussions involving the Military Munitions Response Program (MMRP). Key among these definitions is the term MEC, which stands for Munitions and Explosives of Concern. This term, by its definition, has replaced the term Ordnance and Explosives (OE), and it contains all of the former sub-elements of OE (Unexploded Ordnance [UXO], Discarded Military Munitions [DMM], and Munitions Constituents [MC] present in high enough concentrations to pose an explosive hazard).

   It appears that the term "MEC" may have been incorrectly presented in the title of the subject work plan. For example, the title of the work plan as shown on the document cover, the title page, and in Section 1.1 Introduction, refers to "Munitions of Explosives Concern" instead of "Munitions and Explosives of Concern." If, for some reason, "Munitions of Explosives Concern" is the intended title of the document, then the official acronym for Munitions and Explosives of Concern, which is "MEC," should not be used as an acronym for the title in Section 1.1. Review the cited pages and correct the title or remove the acronym "MEC" as appropriate.

2. The Quality Control Plan does not provide the details as to what constitutes pass and fail criteria for the operations to be inspected. It does have the appropriate details of what is to be done in the quality program, but it lacks the details of how the program will be executed and the information as to what procedures will be implemented to correct discovered deficiencies. The Contractor's grid QC process is described in Section 10.7.1.1 MEC Clearance in Mag and Flag Grids, and reads as follows: "The UXOQCS will inspect each grid to determine whether or not the grid has cleared performance requirements. The UXOQCS will select a portion of the grid equivalent to at least 10 percent of the area for QC testing. The UXOQCS will re-sweep this portion of the grid using the same geophysical instrument used for the initial sweeps. The results of the QC

inspections, both passing and failing, will be recorded in the QC log. For any grid that fails a QC inspection, the grid will be completely reworked and re-QC'd before submitting the grid for QA inspection."

For Government QA Activities, Section 10.12.1 Mag and Flag MEC Removal or Investigations, reads as follows: "The Title II services Contractor MEC safety specialist will perform a QA inspection of at least 10 percent of each grid that has passed the Contractor's QC process. The MEC Safety Specialist will perform a surface sweep of approximately 10 percent of the grid area using the same instrument used by the Contractor. The MEC safety specialist may inspect more than 10 percent if deemed necessary. If a grid fails as defined by the DWOs, then the MEC Safety Specialist will implement corrective actions, which may include more stringent QA standards."

Neither of these processes define what constitutes pass and fail criteria. Neither of these processes address what is to be done to ensure that the causative factors of any grid failures are identified and corrective measures are implemented to preclude recurrence. While the process discussed later in Section 10 does seem to require an analysis of the cause of quality problems, it is not directly connected to the inspections which noted the grid failures.

Expand the cited sections to include a discussion of what constitutes pass and fail criteria for a grid. In addition, revise the cited sections to include the actions to be taken by the responsible QA/QC officials in determining what caused the failure and what can be done to correct the process to prevent future repetition of the same failure conditions. Provide a definition of the acronym "DWOs" and where these may be found in the work plan or elsewhere for use in determining the pass and fail criteria.

3. A review of the document has revealed that the terms "projectile" and "round" appear to be used interchangeably. An example of this may be found in Section 2.7.4 Venting Of MPPEH Scrap on page 2-20. Here, what appears to be a 105mm tank gun practice projectile is referred to as a "projectile" and then subsequently as a "round." It is obvious that the second reference is to a projectile. This is because the 105mm item referenced has an inert projectile, but the propellant and primer that would be found in the attached cartridge case would be live if it was a round and not just the inert projectile. The sentence in which the item is called a round states that it is inert, which indicates that it is only the inert practice projectile.

While no Navy definition has been located which specifically identifies the difference between the two terms, the U.S. Army Corps of Engineers Documents referenced on pages 2-1 and 2-2 of the work plan default to AR 310-25 (Dictionary of United States Army Terms) for the terms used therein. The definition of the term "round" that is found in that dictionary is as follows:

round	See round of ammunition.
round of ammunition	A round of ammunition comprises all the components necessary to fire the weapon once. In general, these components are primer, propellant, container or holder for propellant (cartridge case or bag), and projectile – with fuze and booster if necessary – for the proper functioning of the projectile.

As is noted in the definition, a "round" includes the projectile as a subelement. It is recommended that, to ensure understanding by all who read this work plan, the term "round" should be used only when describing a projectile with all of the associated items necessary to propel the projectile downrange. The term "projectile" should be used to describe that portion of the complete round which is fired downrange. Revise the cited section and any other sections necessary to implement this correction throughout the work plan.

SPECIFIC COMMENTS

Acronyms and Abbreviations

1. There are a number of acronyms listed in this section and elsewhere in the work plan which are either misdefined, or the listed definitions do not correspond with definitions provided elsewhere in the work plan. In addition, some acronyms are used which are not defined in the work plan. The Acronym "MPPEH" is incorrectly defined in this section as "Munitions Posing a Potential Explosive Hazard." It is also incorrectly presented in the title for Section 2.7 Management of Material that Presents a Potential Explosive Hazard (MPPEH). It is also defined in this manner in Section 2.5.4 MEC Safe Holding Area on page 2-9. In Attachment 2-1 it is presented on the title page as, "Materials that Presents a Potential Explosive Hazard (MPPEH)." The correct definition (from the DoD Munitions Action Plan, November 2001) is "Material Potentially Presenting an Explosive Hazard." Correct all of the definitions/uses of MPPEH in the work plan to read as the definition in the cited DoD Munitions Action Plan.

   The acronym "HBX" is used in the subsection entitled "Demilitarization Requirements" on page 2-15 of the work plan. This is either a misspelling of the term "HMX" or it is an undefined acronym. Research this and correct it as necessary.

   The acronym "DWOs" is used on page 10-16 of Section 10.12.1 Mag and Flag MEC Removal or Investigations of the work plan, with no definition provided. Add this definition at an appropriate location in the plan.

   The acronym "ESS" is incorrectly defined in the Acronyms and Abbreviations Section as "Explosive Safety Submission." It is defined in DoD 6055.9-STD Ammunition and Explosives Safety Standards as "Explosives Safety Submission." Correct this in the Acronyms and Abbreviations Section.

Section 2.4.4.2 MEC Investigation Operations and Removal Actions

2. The section presents a general discussion of the process to be used to conduct the investigation and removal of MEC and non-MEC metallic items from the area. However, it does not address what is to be done if a MEC item cannot be moved. It also does not discuss the process for leaving suspected MEC in place pending disposal. As the section currently reads, it appears to suggest that all MEC will be removed and none will be detonated in place. In addition, the section states that handheld magnetometers may be used "...to identify smaller items." It would better describe the function of the magnetometer if the word "identify" were replaced with the word "locate." Revise and expand this section to more fully describe the process for locating and eliminating MEC and non-MEC metallic items from the area of concern.

Section 2.5.1 MEC Safety

3. The sixth paragraph of this section on page 2-8 contains statements which read: "Expended pyrotechnic/practice devices may contain red/white phosphorous (WP) residue. Due to incomplete combustion, phosphorous may be present and re-ignite spontaneously if the crust is broken and the contents exposed to air." While it is true that white (yellow) phosphorous is pyrophoric and exposure to air will ignite it, the same is not true with respect to red phosphorous. However, when used in most munitions, red phosphorous is usually combined with an oxidizer of some type, which often makes it extremely sensitive to shock or friction. While the cautions noted in NAVSEA OP 5 (Ammunition and Explosives Ashore: Safety Regulations for Handling, Storing, Production, Renovation, and Shipping) Section 3-5.2 should be followed, the caution concerning spontaneous combustion when exposed to air applies to white (yellow) phosphorous and not to red phosphorous. As the statement in the work plan currently reads, it gives the incorrect inference that red phosphorous is pyrophoric. Revise the cited section to correct this.

Section 2.5.5 Procedures When MEC Cannot be Destroyed Onsite or Cannot be Identified

4. The first paragraph of this section on page 2-10 notes that, "However, in the event one or more MEC items are encountered which cannot be destroyed onsite. A suitable treatment site will be located at one of the nearby MRSs." It appears from the wording of the two sentences (the first is incomplete and the second is complete) that a comma should replace the period in the first sentence and the second sentence should be added to make one complete sentence. Make this correction as noted.

Section 2.7.3 Disposition of Munitions List Items

5. In the subsection entitled "Demilitarization Requirements," there are five lettered (a. through e.) subsections to the fourth paragraph. These lettered subsections (pages 2-15 and 2-16) describe the DoD organizations which should be contacted to provide demilitarization technical instructions for specific categories of ammunition items, based upon the procuring activity that supplied them. As these lettered subsections are currently written, subsection b. appears to conflict with subsections d. and e. This is because the statement in subsection b. has omitted the qualifier that the items listed are procured by the Department of the Army for the Army, and for the other services in the Army's role as the Single Manager for Conventional Ammunition in the case of jointly used ammunition. The first sentence in subsection b. should be revised by the addition of the words, "procured by the Army" between the words "ammunition" and "except." This will make the sentence read, "For conventional, chemical, and all other types of ammunition procured by the Army except lethal chemical agents and waste munitions, technical instructions will be provided by the U.S. Army Industrial Operations Command, Attn: AMSIO-SM1K, Rock Island, IL, 61299-6000." Correct this statement as requested.

Figure 2-1 Logic Diagram for the Collection and Disposition of MPPEH/MD Scrap

6. This logic diagram is found as Figure 2-1 on page 2-21 and again as Figure 1 on page 10-14 of Attachment 2-1 to Section 2 Technical Management Plan of the work plan. In both instances there is a block labeled "Training" in the second level of the diagrams. It is assumed that this block refers to the scrap from the ammunition types noted as "practice/training" in Section 2.5.1 MEC Safety of the work plan. If this is the case, the blocks labeled "Training" on each of the diagrams should be relabeled "Practice/Training" for consistency in terminology and to encompass all of the munitions types noted in Section 2.5.1. Revise the referenced logic diagrams as requested.

Section 2.10 Site Safety and Communications (TBD by UXO Subcontractor)

7. As is noted in the title of this section, it is incomplete until the requisite information is provided by the subcontractor. Provide this information to the EPA for review when it becomes available.

Attachment 2-1 Materials that Presents a Potential Explosive Hazard (MPPEH/Munitions Debris (MD) Collection and Inspection Procedures

8. The pages of this attachment are numbered beginning with 10-1 and running through 10-16. As they are attached to Section 2 Technical Management Plan of the work plan, it is unclear as to why these pages are numbered as a 10 series, particularly when this conflicts numerically with pages 10-1 through 10-16 of the work plan body. Correct this as deemed necessary.

Attachment 2-1 Materials that Presents a Potential Explosive Hazard (MPPEH/Munitions Debris (MD) Collection and Inspection Procedures

9. In Section 5.2 Demilitarization Requirements of Attachment 2-1, page 10-6 contains a statement that reads, "Three X=s indicate that the equipment or facilities (in this case OE scrap) have been examined and decontaminated by approved procedures...." It is unclear as to what is indicated by the term "X=s." Is this a typographical error which should read "Xs," or is this an undefined term which needs definition? Clarify this.

   In addition, the parenthetical term "(OE scrap)" is obsolete and should read "MD scrap." Correct this usage.

Section 3.3.1 Acquisition

10. In the first bullet of the section on page 3-1, there is an explosive listed which reads "Octahydro-1,3,5,7-tetramitro-1,3,5,7-tetrazine (HMX)." The letter grouping following the first series of numbers should read "-tetranitro-.) Correct this error.

Section 4.0 Explosives Siting Plan

11. On the cover page of this section, a statement is made that the "...Final Explosives Siting Plan has not been issued; however, DDESB approval of the Explosives Siting Plan was granted December 29, 2004..." Provide the EPA with a copy of the approved Final Explosives Siting Plan when it is received.

Section 10.3 QC Personnel Qualifications and Training

12. On page 10-2 of this section, it is stated that, "Verified personnel qualification verification forms (Form 10-1) will be included in the amendment to this work plan." Ensure that the EPA is provided the amended work plan.

NAVFAC Munitions Response Program Quality Assessment Guidance Manual (Attachment to Section 10 Quality Control Plan)

13. In an unnumbered section of this manual entitled "MRP Quality Assessment Plan," it is noted that, "The Navy MRP QA Manager will develop a project-specific MRP Quality Assessment Plan (MRP QAP) that describes how the requirements of this NAVFAC MRP QA Guidance Manual are to be implemented for a specific munitions response project." It is requested that the EPA be provided a copy of this plan for review.